

## CLAIMS

What is claimed is:

1. An automated method for authoring and delivery product catalogs, comprising the steps of:

setting up a catalog database for storing and providing data for use in said authoring of said product catalogs;

- 5 authoring a product content, including the steps of:

updating a product structure, including storing new data,

selecting views for a product wherein said views comprise a respective hierarchical structure of objects of various types,

associating said new data with respective selected views, and

- 10 entering product data for said objects of various types; and

updating and organizing said objects, in each case, based on said respective hierarchical structure such that said product content for all required views is stored in said catalog database.

2. An automated method for authoring and delivering product catalogs as recited in claim 1, wherein said step of updating a product structure, including storing new data, comprises the steps of:

updating product graphics for said objects;

- 5 updating technical data for said objects; and

updating a related text description for said objects.

3. An automated method for authoring and delivering product catalogs as recited in claim 2, including the steps of:

updating an encoding scheme for said objects; and  
updating a character set for said objects.

4. An automated method for authoring and delivering product catalogs as recited in claim 3, including the steps of:

entering the content of said objects; and  
organizing said objects based on the structure of a specific view.

5. An automated method for authoring and delivering product catalogs as recited in claim 4, including the step of:

entering a set of properties; and

5 attaching said set of properties to an object to further qualify the type of product information represented by the object.

6. An automated method for authoring and delivering product catalogs as recited in claim 2, wherein said step of updating product graphics for said objects comprises:

processing said product graphics in accordance with given requirements;

selectively generating and adding overlays to said product graphics; and

5 extracting prescribed image data from said processing of said product graphics.

7. An automated method for authoring and delivering product catalogs as recited in claim 6, wherein said step of extracting prescribed image data from said processing of said product graphics comprises extracting data including relevant ID's, labels, and symbols.

8. An automated method for authoring and delivering product catalogs as recited in claim 6, wherein said step of updating product graphics for said objects comprises:

combining said prescribed image data and said overlays so as to produce a resulting integrated image.

9. An automated method for authoring and delivering product catalogs as recited in claim 8, wherein said step of combining said prescribed image data and said overlays comprises integrating said prescribed image data for adding anchorable information units (AIU's ) to said integrated image.

10. An automated method for authoring and delivering product catalogs as recited in claim 6, wherein said step of selectively generating and adding overlays comprises:

selectively combining selected ones of said overlays for providing a format suitable for given browsers and viewers

11. An automated method for authoring and delivering product catalogs as recited in claim 6, wherein said step of extracting prescribed image data from said processing of said product graphics comprises extracting data including relevant ID's, labels, and symbols.

12. An automated method for authoring and delivering product catalogs as recited in claim 2, wherein said step of updating product graphics for said objects comprises:

combining said prescribed image data and said overlays so as to produce a resulting integrated image.

13. An automated method for authoring and delivering product catalogs as recited in claim 12, wherein said step of combining said prescribed image data and said overlays comprises integrating said prescribed image data for adding anchorable information units (AIU's ) to said integrated image.

14. An automated method for authoring a product catalog, comprising the steps of:

setting up a catalog database for storing and providing data for use in said authoring of said product catalogs;

authoring a product content, including the steps of:

5 generating and updating a product structure, including storing new data, selecting views for a product wherein said views comprise a respective hierarchical structure of objects of various types;

associating said new data with respective selected views,

entering product data for said objects of various types;

10 updating product graphics for said objects;

updating technical data for said objects;

updating a related text description for said objects; and

updating and organizing said objects, in each case, based on said respective hierarchical structure such that said product content for all required views is stored in said

15 catalog database.

15. An automated method for authoring and delivering a product catalog as recited in claim 14, wherein said step of updating product graphics comprises:

updating and entering into said database product images;

manipulating said graphics;

5 extracting anchorable information units (AIU) from said graphics;

generating overlay image layers for said graphics;

optionally combining said overlay image layers; and

generating an integrated product image.

16. An automated method for authoring and delivering a product catalog as recited in claim 14, wherein said step of updating product graphics comprises:

generating a further image layer including said AIU's; and  
superimposing said further image layer on said overlay images.

17. An automated method for authoring and delivering a product catalog as recited in claim 14, wherein said step of updating technical data for said objects comprises:

retrieving product information data from a back-end system;  
extracting a product text description containing at least one of in-line graphics and  
5 embedded graphics;  
mapping said product information data into an appropriate format for inclusion into said product text description;  
uploading said embedded graphics;  
integrating said embedded graphics and said product text description for forming an  
10 object of technical data; and  
storing said object of technical data in said database.

18. An automated method for authoring and delivering a product catalog as recited in claim 17, wherein said step of uploading said embedded graphics comprises:

defining sub-objects from respective parent objects in said product text description in accordance with given criteria.

19. An automated method for authoring and delivering a product catalog as recited in claim 18, wherein said step of uploading said embedded graphics comprises:

storing and processing said sub-objects under said respective parent objects.

20. An automated method for authoring and delivering a product catalog as recited in claim 14, wherein said step of updating a related text description comprises:

retrieving product information data from a back-end system;

extracting a product text description containing at least one of in-line graphics and  
5 embedded graphics;

mapping said product information data into an appropriate format for inclusion into said product text description;

uploading said embedded graphics;

entering user defined product data into said database;

10 integrating said embedded graphics, said product text description for forming a structured text description, and said user defined product data for forming a structured text description; and

storing said structured text description in said database.

21. An automated method for authoring and delivering a product catalog as recited in claim 14, including:

generating said catalog;

publishing said catalog;

5 previewing said catalog;

optionally formatting said catalog; and

delivering said catalog.

22. An automated method for authoring and delivering a product catalog as recited in claim 20 including:

generating a catalog template structure in accordance with said document type definition;

parsing and traversing said catalog template structure;  
5 evaluating, during said traversing, template objects found in said template structure as variables and catalog objects, wherein an object which is not a variable is considered a catalog object for evaluation;  
generating at least one real catalog object for an instance found of a catalog object; and  
identifying and extracting content from said database for generating said real catalog  
10 object for said an instance.

23. An automated method for authoring and delivering a product catalog as recited in claim 22, wherein said step of generating at least one real catalog object for an instance found of a catalog object comprises:

generating a real catalog object that is a constant object by replacing variables  
5 constituting said real catalog object by respective values thereof.

24. An automated method for authoring and delivering a product catalog as recited in claim 23, wherein said step of generating at least one real catalog object for an instance found of a catalog object comprises:

identifying a variable constituent in said real catalog object and fixing a definition for  
5 said variable constituent which comprises an external reference, whereby said external references is located and transferred to be incorporated in its target real catalog object.

25. An automated method for authoring and delivering a product catalog as recited in claim 23, wherein said step of generating at least one real catalog object for each instance found of a catalog object comprises:

identifying a variable constituent in said real catalog object and fixing a definition for  
5 said variable constituent in said template such that target documents based on said template include said definition for said variable.

26. An automated method for authoring and delivering a product catalog as recited in claim 25, wherein said step of generating at least one real catalog object for said each instance found of a catalog object comprises:

fixing said definition for said variable as a product name.

27. An automated method for authoring and delivering a product catalog as recited in claim 25, wherein said step of generating at least one real catalog object for said each instance found of a catalog object comprises:

fixing said definition for said variable as a query.

28. An automated method for authoring and delivering a product catalog as recited in claim 25, wherein said step of generating at least one real catalog object for said each instance found of a catalog object comprises:

fixing said definition for said variable as a query requiring retrieval and manipulation of

5 data base contents.

29. An automated method for authoring and delivering a product catalog as recited in claim 25, wherein said step of generating at least one real catalog object for said each instance found of a catalog object comprises:

fixing said definition for said variable as a query requiring retrieval and manipulation of

5 database data fields.

30. An automated method for authoring and delivering a product catalog as recited in claim 25, wherein said step of generating at least one real catalog object for said each instance found of a catalog object comprises:

fixing said definition for said variable as a conditional command, depending for

5 execution thereof on any of said local and global variables and said data base contents.

31. An automated method for authoring and delivering a product catalog as recited in  
claim 25, wherein said step of generating at least one real catalog object for said each instance  
found of a catalog object comprises:

fixing said definition for said variable as a query so as to cause generation of multiple

5 catalog objects resulting from multiple data records.

32. An automated method for authoring and delivering a product catalog as recited in  
claim 25 wherein said step of generating at least one real catalog object for said each instance  
found of a catalog object comprises:

fixing said definition for said variable cause generation of multiple catalog sub-objects.

33. An automated method for authoring and delivering a product catalog as recited in  
claim 22, wherein said step of generating at least one real catalog object for said instance found  
of a catalog object comprises:

generating catalog sub-objects having the attributes of said real catalog objects.

34. An automated method for authoring and delivering a product catalog as recited in  
claim 22, including:

defining global variables at said generating a catalog template structure; and

defining local variables at said evaluating template objects.

35. An automated method for authoring and delivering a product catalog as recited in  
claim 22, including:

generating an index list comprising references to selected objects.

36. An automated method for authoring and delivering a product catalog as recited in claim 15, comprising:

publishing said catalog as at least one of a delivery database and a set of file directories.

37. An automated method for authoring and delivering a product catalog as recited in claim 36, comprising:

publishing an organization of a product structure for said catalog;

publishing an organization of a product structure for said respective selected views; and

5 publishing an organization of a product structure of definitions, styles, and product documents for said respective selected views.

38. An automated method for authoring a product catalog, comprising the steps of:

setting up a catalog database for storing and providing data for use in said authoring of said product catalogs;

authoring a product content, including the steps of:

5 generating and updating a product structure, including storing new data,

selecting views for a product wherein said views comprise a respective hierarchical structure of objects of various types;

associating said new data with respective selected views,

entering product data for said objects of various types;

10 updating product graphics for said objects;

updating technical data for said objects;

updating a related text description for said objects;

15        updating and organizing said objects, in each case, based on said respective hierarchical structure such that said product content for all required views is stored in said catalog database; and

      publishing said catalog, including an organization of a product structure for said catalog, an organization of a product structure for said respective selected views, and an organization of a product structure of definitions, styles, and product documents for said respective selected views.

39.      A system for automatically authoring a product catalog, including a programmable computer with a memory, said computer being programmed for:

      setting up a catalog database for storing and providing data for use in said authoring of said product catalogs;

5            authoring a product content, including the steps of:

      generating and updating a product structure, including storing new data,

      selecting views for a product wherein said views comprise a respective hierarchical structure of objects of various types;

      associating said new data with respective selected views,

10          entering product data for said objects of various types;

      updating product graphics for said objects;

      updating technical data for said objects;

      updating a related text description for said objects; and

15          updating and organizing said objects, in each case, based on said respective hierarchical structure such that said product content for all required views is stored in said catalog database.

40.      A system for automatically authoring a product catalog as recited in claim 39, wherein said computer is programmed for:

      updating and entering into said database product images;

manipulating said graphics;  
5 extracting anchorable information units (AIU) from said graphics;  
generating overlay image layers for said graphics;  
optionally combining said overlay image layers; and  
generating an integrated product image.

41. A system for automatically authoring a product catalog, including a programmable computer with a memory, said computer being programmed for:

setting up a catalog database for storing and providing data for use in said authoring of said product catalogs;

5 authoring a product content by:

updating a product structure, including storing new data,

selecting views for a product wherein said views comprise a respective hierarchical structure of objects of various types,

associating said new data with respective selected views, and

10 entering product data for said objects of various types; and

updating and organizing said objects, in each case, based on said respective hierarchical structure such that said product content for all required views is stored in said catalog database.

42. A system for automatically authoring a product catalog as recited in claim 41, wherein said computer is programmed for:

updating product graphics for said objects;

updating technical data for said objects; and

5 updating a related text description for said objects.